

C. Fronda

D.J.

1652

#9

3-18-00

Sequenced/Testing  
DATE: 02/10/2000  
TIME: 14:56:06

PAGE: 1

RAW SEQUENCE LISTING  
PATENT APPLICATION US/09/358,103B

Input Set: I358103B.RAW

This Raw Listing contains the General Information  
Section and up to first 5 pages.

fs

ENTERED

1 <110> APPLICANT: Roca, Alberto I  
2 <120> TITLE OF INVENTION: Mutants of Maw Motifs of RecA Protein Homologs, Methods  
3 of Making Them, and Their Uses  
4 <130> FILE REFERENCE: RecA Homolog Protein & Mutants  
5 <140> CURRENT APPLICATION NUMBER: US/09/358,103B  
6 <141> CURRENT FILING DATE: 1999-07-21  
7 <150> EARLIER APPLICATION NUMBER: 60/094,071  
8 <151> EARLIER FILING DATE: 1998-07-24  
9 <160> NUMBER OF SEQ ID NOS: 3  
10 <170> SOFTWARE: PatentIn Ver. 2.0  
11 <210> SEQ ID NO 1  
12 <211> LENGTH: 26  
13 <212> TYPE: PRT  
14 <213> ORGANISM: Escherichia coli  
15 <220> FEATURE:  
16 <221> NAME/KEY: NON\_TER  
17 <222> LOCATION: (1)  
18 <220> FEATURE:  
19 <221> NAME/KEY: NON\_TER  
20 <222> LOCATION: (26)..)  
21 <220> FEATURE:  
22 <221> NAME/KEY: HELIX  
23 <222> LOCATION: (6)..(12)  
24 <223> OTHER INFORMATION: Alpha-helix B  
25 <220> FEATURE:  
26 <221> NAME/KEY: STRAND  
27 <222> LOCATION: (22)..(26)  
28 <223> OTHER INFORMATION: Beta-strand 1  
29 <220> FEATURE:  
30 <221> NAME/KEY: SIMILAR  
31 <222> LOCATION: (1)..(26)  
32 <223> OTHER INFORMATION: This structure is highly conserved across  
33 bacterial RecA and homologous eukaryotic,  
34 archaeal, and viral proteins; sequence below is  
35 from E. coli RecA positions 40-65  
36 <400> SEQUENCE: 1  
37 Ile Ser Thr Gly Ser Leu Ser Leu Asp Ile Ala Leu Gly Ala Gly Gly  
38 1 5 10 15  
39 Leu Pro Met Gly Arg Ile Val Glu Ile Tyr  
40 20 25  
41 <210> SEQ ID NO 2  
42 <211> LENGTH: 26  
43 <212> TYPE: PRT  
44 <213> ORGANISM: Escherichia coli

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RAW SEQUENCE LISTING  
PATENT APPLICATION US/09/358,103BDATE: 02/10/2000  
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45 <220> FEATURE:  
46 <221> NAME/KEY: NON\_TER  
47 <222> LOCATION: (1)  
48 <220> FEATURE:  
49 <221> NAME/KEY: NON\_TER  
50 <222> LOCATION: (26)  
51 <220> FEATURE:  
52 <221> NAME/KEY: HELIX  
53 <222> LOCATION: (6)..(12)  
54 <223> OTHER INFORMATION: Alpha-helix B  
55 <220> FEATURE:  
56 <221> NAME/KEY: STRAND  
57 <222> LOCATION: (22)..(26)  
58 <223> OTHER INFORMATION: Beta-strand 1  
59 <220> FEATURE:  
60 <221> NAME/KEY: SIMILAR  
61 <222> LOCATION: (1)..(26)  
62 <223> OTHER INFORMATION: Non 'Xaa' residues are the invariant MAW-motif  
63 residues in RecA and its homologs  
64 <220> FEATURE:  
65 <221> NAME/KEY: SITE /  
66 <222> LOCATION: (1)  
67 <223> OTHER INFORMATION: This site is not invariant across RecA homologs  
68 and has observed to contain Ile, Phe, Met, Thr,  
69 Val, Tyr, or Leu  
70 <220> FEATURE:  
71 <221> NAME/KEY: SITE  
72 <222> LOCATION: (2) /  
73 <223> OTHER INFORMATION: This site is not invariant across RecA homologs  
74 and has been observed to contain Ser, Gly, Lys,  
75 Pro, Thr, or Arg  
76 <220> FEATURE:  
77 <221> NAME/KEY: SITE  
78 <222> LOCATION: (3)  
79 <223> OTHER INFORMATION: This site is not invariant / across RecA homologs  
80 and has been observed to contain Thr, Ser, or Trp  
81 <220> FEATURE:  
82 <221> NAME/KEY: SITE /  
83 <222> LOCATION: (4)  
84 <223> OTHER INFORMATION: This site is not invariant across RecA homologs  
85 and has been observed to contain Gly, Arg, Ala,  
86 Lys, Asn, or Gln  
87 <220> FEATURE:  
88 <221> NAME/KEY: SITE  
89 <222> LOCATION: (5) /  
90 <223> OTHER INFORMATION: This site is not invariant across RecA homologs  
91 and has been observed to contain Ser, Ala, Cys,  
92 Ile, Asn, Asp, or Phe  
93 <220> FEATURE:  
94 <221> NAME/KEY: SITE

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RAW SEQUENCE LISTING  
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95 <222> LOCATION: (6) /  
96 <223> OTHER INFORMATION: This site is not invariant across RecA homologs  
97 and has been observed to contain Leu, Ile, Thr,  
98 Val, Tyr, Lys, Gln, Asp, Pro, or Arg  
99 <220> FEATURE:  
100 <221> NAME/KEY: SITE  
101 <222> LOCATION: (7) /  
102 <223> OTHER INFORMATION: This site is not invariant across RecA homologs  
103 and has been observed to contain Ser, Ala, Asp,  
104 Gly, Leu, Met, Thr, Val, Tyr, Glu, Asn, or Gln  
105 <220> FEATURE:  
106 <221> NAME/KEY: SITE  
107 <222> LOCATION: (8) /  
108 <223> OTHER INFORMATION: This site is not invariant across RecA homologs  
109 and has been observed to contain Leu, Ile, Val,  
110 Phe, or Met  
111 <220> FEATURE:  
112 <221> NAME/KEY: SITE  
113 <222> LOCATION: (9) /  
114 <223> OTHER INFORMATION: This site is not invariant across RecA homologs  
115 and has been observed to contain Asp or Asn  
116 <220> FEATURE:  
117 <221> NAME/KEY: SITE  
118 <222> LOCATION: (10) /  
119 <223> OTHER INFORMATION: This site is not invariant across RecA homologs  
120 and has been observed to contain Ile, Ala, Glu,  
121 Gly, Leu, Asn, Gln, Arg, Ser, Thr, Val, Lys, or  
122 Asp  
123 <220> FEATURE:  
124 <221> NAME/KEY: SITE  
125 <222> LOCATION: (11) /  
126 <223> OTHER INFORMATION: This site is not invariant across RecA homologs  
127 and has been observed to contain Ala, Ile, Leu, or  
128 Val  
129 <220> FEATURE:  
130 <221> NAME/KEY: SITE  
131 <222> LOCATION: (12) /  
132 <223> OTHER INFORMATION: This site is not invariant across RecA homologs  
133 and has been observed to contain Leu, Met, or Thr  
134 <220> FEATURE:  
135 <221> NAME/KEY: SITE  
136 <222> LOCATION: (13) /  
137 <223> OTHER INFORMATION: This site is not invariant across RecA homologs  
138 and has been observed to contain Gly, Gln, Ala,  
139 Asn, or Ser  
140 <220> FEATURE:  
141 <221> NAME/KEY: SITE  
142 <222> LOCATION: (14)  
143 <223> OTHER INFORMATION: This site is not invariant across RecA homologs  
144 and has been observed to contain Ala, Ile, Ser,

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RAW SEQUENCE LISTING  
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145 Thr, Val, Gly, or Leu, and this site is not  
146 present in some homologs  
147 <220> FEATURE:  
148 <221> NAME/KEY: SITE  
149 <222> LOCATION: (17)  
150 <223> OTHER INFORMATION: This site is not invariant across RecA homologs  
151 and has been observed to contain Leu, Phe, Ile,  
152 Val, Tyr, or Met  
153 <220> FEATURE:  
154 <221> NAME/KEY: SITE  
155 <222> LOCATION: (18)  
156 <223> OTHER INFORMATION: This site is not invariant across RecA homologs  
157 and has been observed to contain Pro, Glu, Met,  
158 Phe, Gln, Arg, or Val  
159 <220> FEATURE:  
160 <221> NAME/KEY: SITE  
161 <222> LOCATION: (19)  
162 <223> OTHER INFORMATION: This site is not invariant across RecA homologs  
163 and has been observed to contain Met, Gly, Lys,  
164 Arg, Thr, Ala, Pro, or Ser  
165 <220> FEATURE:  
166 <221> NAME/KEY: SITE  
167 <222> LOCATION: (20)  
168 <223> OTHER INFORMATION: This site is not invariant across RecA homologs  
169 and has been observed to contain Gly, Leu, Met,  
170 Ala, His, Gln, or Arg  
171 <220> FEATURE:  
172 <221> NAME/KEY: SITE  
173 <222> LOCATION: (21)  
174 <223> OTHER INFORMATION: This site is not invariant across RecA homologs  
175 and has been observed to contain Arg, Gln, Ser,  
176 Gly, Thr, or Val  
177 <220> FEATURE:  
178 <221> NAME/KEY: SITE  
179 <222> LOCATION: (22)  
180 <223> OTHER INFORMATION: This site is not invariant across RecA homologs  
181 and has been observed to contain Ile, Val, Ala,  
182 Leu, or Met  
183 <220> FEATURE:  
184 <221> NAME/KEY: SITE  
185 <222> LOCATION: (23)  
186 <223> OTHER INFORMATION: This site is not invariant across RecA homologs  
187 and has been observed to contain Val, Ile, Thr, or  
188 Tyr  
189 <220> FEATURE:  
190 <221> NAME/KEY: SITE  
191 <222> LOCATION: (25)  
192 <223> OTHER INFORMATION: This site is not invariant across RecA homologs  
193 and has been observed to contain Ile, Val, Ala,  
194 Leu, Met, or Phe

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[illegible]

**Please Note:**

**Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.**

VERIFICATION SUMMARY  
PATENT APPLICATION US/09/358,103B

DATE: 02/10/2000

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Input Set: I358103B.RAW

Line	Error/Warning	Original Text
202 W	"N" or "Xaa" used: Feature required	Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa X
204 W	"N" or "Xaa" used: Feature required	Xaa Xaa Xaa Xaa Xaa Xaa Xaa Glu Xaa Xaa
301 W	"N" or "Xaa" used: Feature required	Ile Xaa Thr Gly Xaa Xaa Xaa Leu Asp Xaa A
303 W	"N" or "Xaa" used: Feature required	Leu Xaa Xaa Gly Xaa Ile Val Glu Ile Tyr